

METHOD OF POLISHING C4 MOLYBDENUM MASKS TO REMOVE MOLYBDENUM PEAKS

Abstract

A method of treating a molybdenum (moly) mask used in a C4 process to pattern C4 contacts. The moly mask has a wafer side which contacts a wafer during the C4 process and has a rough surface that includes spikes/projections of moly. The moly mask also has a non wafer side and a plurality of holes extending through the mask to pattern C4 contacts in the C4 process. An adhesive layer, such as an adhesive tape, is applied to the non wafer side of the moly mask, to enable a polishing tool to pull a vacuum on the non wafer side of the moly mask in spite of the presence of the holes to secure the moly mask during a subsequent polishing step. The tape also functions as a cushion so that defects on the non wafer side of the moly mask do not replicate through the moly mask to the polished wafer side of the moly mask. The wafer side of the moly mask is then subjected to mechanical or chemical/mechanical polishing to substantially remove the spikes of moly without significantly altering the dimensions of

the moly mask or the holes.